

THE EFFECT OF INVENTORY TURNOVER AND TOTAL ASSET TURNOVER ON OPERATIONAL EFFICIENCY OF PT PANCA BUDI IDAMAN TBK 2020-2024

Sekar Ayu¹, Dianella Sekar Kinanti²

Abstract

This study aims to analyze the effect of Inventory Turnover (ITO) and Total Asset Turnover (TATO) on the operational efficiency of PT Panca Budi Idaman Tbk for the period 2020–2024. Operational efficiency is measured using Return on Investment (ROI) as an indicator of the company's ability to manage resources optimally. The approach used is quantitative with descriptive and verificative methods based on secondary data from annual financial reports published on the Indonesia Stock Exchange (IDX). The results show that the ITO ratio fluctuates with a downward trend, while TATO increases throughout the observation period. The increase in TATO has a positive effect on ROI, indicating an increase in asset utilization efficiency, while the decline in ITO indicates the need for improvements in inventory management. This study supports the Efficiency Theory and Resource-Based View (RBV), which emphasize the importance of optimizing internal assets to improve company efficiency and profitability. In practical terms, the results of this study recommend that PT Panca Budi Idaman Tbk strengthen its technology-based asset and inventory management strategy in order to maintain sustainable operational efficiency. This study is limited to one company over a five-year observation period, so future studies should include more manufacturing companies in order to produce more comprehensive and representative results.

Keywords:

Inventory Turnover (ITO), Total Asset Turnover (TATO), Operational Efficiency, Return on Investment (ROI)

Introduction

Operational efficiency is a key element that determines a company's competitiveness and sustainability, especially in capital- and resource-intensive manufacturing sectors. Efficiency reflects a company's ability to manage its assets and working capital to produce optimal output at the lowest possible cost. In the context of the Indonesian manufacturing industry, activity ratios such as Inventory Turnover (ITO) and Total Asset Turnover (TATO) are often used to assess management effectiveness and resource utilization efficiency (Ferica, Nauli, Couwinata, & Sukheny, 2020).

The Inventory Turnover ratio shows the speed of inventory turnover in an accounting period. A high ITO value reflects efficient inventory and working capital management. Research by Saputri et al. (2024) confirms that high inventory turnover

has a positive impact on profitability because it accelerates cash flow and reduces storage costs. Similar findings were reported by Muhdor (2023), who stated that efficient inventory management is an important factor in increasing the profits of manufacturing companies, especially in the food and beverage sub-sector.

The Total Asset Turnover (TATO) ratio describes a company's ability to utilize all of its assets to generate revenue. According to Husaloh and Mulyati (2022), TATO has a significant influence on Return on Investment (ROI), which shows that optimizing asset utilization can increase company value as well as operational efficiency. Tania and Dewi (2022) also emphasize that companies with high asset turnover rates generally have more efficient cost structures and better profit margins.

As a leading plastic packaging manufacturer in Indonesia, PT Panca Budi Idaman Tbk faces challenges in maintaining operational efficiency during the 2020–2024 period, mainly due to global economic fluctuations and the impact of the COVID-19 pandemic. Therefore, analysis of the Inventory Turnover (ITO) and Total Asset Turnover (TATO) ratios is important to assess the effectiveness of the company's strategy in maintaining efficiency amid uncertain market dynamics.

This study aims to analyze the effect of Inventory Turnover and Total Asset Turnover on the operational efficiency of PT Panca Budi Idaman Tbk during the period 2020–2024. The results of this study are expected to contribute empirically to the development of financial and operational management literature, as well as provide practical recommendations for companies in managing assets and inventory more effectively. In addition, this study has academic value because it expands on previous studies by highlighting the relationship between financial ratios and operational efficiency in manufacturing companies in the plastics and packaging sector in Indonesia.

Theoretical Framework

Efficiency Theory

According to Brigham and Ehrhardt (2021), efficiency describes the extent to which a company can maximize output from its resources. Efficient companies can reduce costs, increase productivity, and strengthen long-term profitability. Financial ratios such as ITO and TATO serve as key indicators of this level of efficiency.

Resource-Based View Theory

An approach that competitive advantage stems from a company's ability to manage its internal resources optimally. Efficiency in inventory and fixed asset management is an integral part of the strategy to improve financial performance and company value (Saputri et al., 2024; Husaloh & Mulyati, 2022).

Inventory Turnover

Inventory Turnover (ITO) measures the effectiveness of inventory management in generating sales. A high ITO value indicates that the company has successfully minimized stock accumulation and accelerated cash turnover. According to Saputri

et al. (2024), rapid inventory turnover increases profitability by reducing storage costs and improving operational efficiency. Muhdor (2023) research also confirms that the ITO ratio has a positive effect on Return on Investment (ROI) in Indonesian manufacturing companies. Inventory turnover can be calculated using the following formula:

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Total Asset Turnover

The Total Asset Turnover (TATO) ratio measures how effectively a company's assets generate revenue. An increase in TATO indicates greater asset utilization efficiency. Husaloh and Mulyati (2022) found that an increase in TATO significantly affects ROI, as it indicates a company's ability to manage its assets productively. In addition, research by Ferica et al. (2020) indicates that companies with high TATO ratios have better financial performance than those that are inefficient in utilizing their assets. The following is the formula used to measure asset turnover:

$$\text{Total Asset Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Total Assets}}$$

Operational Efficiency

Operational efficiency is a company's ability to minimize costs without reducing output quality. In a financial context, efficiency is measured by Return on Investment (ROI). Pasaribu (2022) shows that a simultaneous increase in the ITO and TATO ratios positively affects ROI, indicating that efficient asset and inventory management is key to a company's operational success. Rahman et al. (2020) explain that the relationship between activity ratios and profitability is a key indicator of operational efficiency. Simultaneous increases in Inventory Turnover (ITO) and Total Asset Turnover (TATO) can increase Return on Investment (ROI), as assets are optimally utilized to generate profits. Conversely, a decrease in these two ratios indicates inefficiency in asset and working capital management, which in turn impacts declining rates of return on investment. The following are the formulas used to measure operational efficiency:

$$ROI = \frac{NPM}{TATO}$$

Research Gap

Research by Ferica et al. (2020) found that Inventory Turnover and Total Asset Turnover have a positive effect on the profitability of manufacturing companies.

These results are in line with the findings of Saputri et al. (2024), which show that efficient inventory and asset management has a direct impact on profit growth. In addition, Muhdor (2023) and Pasaribu (2022) found that companies that are able to maintain stable activity ratios have better operational efficiency and higher ROI compared to companies with low turnover rates.

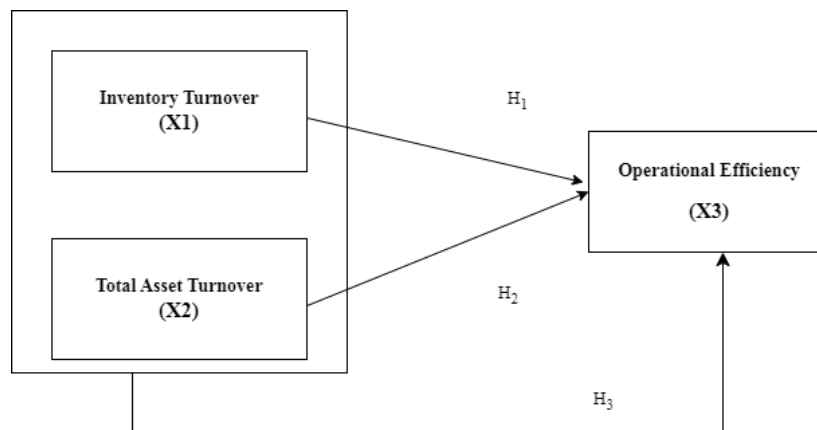


Figure 1

Method

This study uses a quantitative approach with descriptive and verificative methods. The quantitative approach was chosen to analyze the relationship between variables measured numerically, namely Inventory Turnover (ITO), Total Asset Turnover (TATO), and Operational Efficiency (ROI). The descriptive method was used to describe the financial performance of PT Panca Budi Idaman Tbk during the 2020-2024 period, while the verifiable method was used to test the effect of ITO and TATO on operational efficiency.

The population in this study was all of PT Panca Budi Idaman Tbk's annual financial reports published on the Indonesia Stock Exchange (IDX) during 2020-2024. The sampling technique was carried out using purposive sampling, namely the selection of data based on the time period and the completeness of the relevant financial reports to analyze financial ratios.

This study only uses data from one company (case study), so each year of observation is considered as one unit of observation data (a total of five observations).

The type of data used is secondary data, obtained from the annual financial reports of PT Panca Budi Idaman Tbk and the official website of the Indonesia Stock Exchange (www.idx.co.id). The data collected includes total assets, net sales, and inventory value, which are then used to calculate the ITO and TATO ratios.

Results

Table 2

Calculation of Inventory Turnover of PT Panca Budi Idaman Tbk (in rupiah)

Year	Cost Of Goods Sold (Rp)	Inventory (Rp)	Inventory Turnover (kali)
2020	136,312,520	612,603,486	0.22
2021	157,008,943	960,254,729	0.16
2022	183,559,827	1,104,811,313	0.17
2023	202,620,131	1,403,523,255	0.14
2024	223,843,348	1,143,148,922	0.20

Source: Financial Statements of PT Panca Budi Idaman Tbk, 2020-2024

Table 2

Calculation of Total Asset Turnover of PT Panca Budi Idaman Tbk (in rupiah)

Year	Net Sales (Rp)	Total Assets (Rp)	Total Asset Turnover (times)
2020	136,312,520	2,421,301,079	0.0563
2021	157,008,943	2,801,186,958	0.0560
2022	183,559,827	3,040,363,137	0.0604
2023	202,620,131	3,196,352,644	0.0634
2024	223,843,348	3,583,499,263	0.0625

Source: Financial Statements of PT Panca Budi Idaman Tbk, 2020-2024

Table 3

Net Profit Margin (NPM) and Total Asset Turnover (TATO) Data in relation to Return on Investment (ROI) of PT Panca Budi Idaman Tbk for the 2020-2024 period

Year	Net Profit Margin (%)	Total Asset Turnover (TATO)	Return on Investment (ROI %)
2020	9,65	0.0563	0,54
2021	9,29	0.0560	0,52
2022	7,06	0.0604	0,43
2023	7,99	0.0634	0,51
2024	9,29	0.0625	0,58

Source: Financial Statements of PT Panca Budi Idaman Tbk, 2020-2024

Discussion

Interpretation of Results Based on Table 1 - Inventory Turnover

Based on Table 1, the Inventory Turnover (ITO) ratio of PT Panca Budi Idaman Tbk during the 2020-2024 period experienced fluctuations with a general downward trend. In 2020, the ITO was 0.22 times, then decreased to 0.16 times in 2021, slightly increased to 0.17 times in 2022, dropped again to 0.14 times in 2023,

and rose to 0.20 times in 2024. This trend shows that the company's inventory management effectiveness remains unstable and relatively low.

An ITO value below one time per year indicates that inventory turnover is not yet efficient, causing a large portion of working capital to be tied up in stock. This observation supports the findings of Saputri et al. (2024) and Muhdor (2023), who argue that a low inventory turnover ratio reflects inefficiency in managing working capital, which can negatively affect profitability and operational performance.

Theoretically, these findings align with the Efficiency Theory proposed by Brigham and Ehrhardt (2021), which emphasizes that operational efficiency occurs when a company can minimize costs and optimize resource utilization. The fluctuation in ITO values suggests that the company still faces difficulties in maintaining a balance between market demand and inventory control. Practically, the company should enhance its inventory management system, adopt a just-in-time approach, and leverage digital supply chain technologies to increase inventory turnover speed and efficiency.

Interpretation of Results Based on Table 2 - Total Asset Turnover

Based on Table 2, the Total Asset Turnover (TATO) ratio of PT Panca Budi Idaman Tbk ranged between 0.056 and 0.063 times during the study period. This indicates that each rupiah of company assets generated around Rp0.06 in net sales. Although the ratio remains relatively low, TATO shows an upward trend from 0.056 times in 2020 to 0.063 times in 2024, suggesting improved effectiveness in using assets to generate revenue. These findings align with the research of Ferica et al. (2020) and Husaloh and Mulyati (2022), which explain that higher asset turnover positively affects company efficiency and profitability. Similarly, Rahman et al. (2020) highlight that activity ratios like TATO serve as essential indicators for evaluating how efficiently a company manages its assets and operations.

From a theoretical standpoint, these results support the Resource-Based View (RBV) theory, which stresses the importance of managing internal resources effectively to achieve a competitive advantage (Saputri et al., 2024). Practically, the increase in TATO suggests that PT Panca Budi Idaman Tbk has enhanced its asset utilization strategy by optimizing production capacity and improving distribution efficiency. However, to further strengthen performance, the company should continue developing product diversification and operational innovation to boost sales growth and maximize the use of fixed assets.

Interpretation of Results Based on Table 3 - ROI, NPM, TATO

Based on Table 3, the Return on Investment (ROI) shows a notable increase from 0.43 in 2022 to 0.58 in 2024. This growth aligns with the rise in the Total Asset Turnover (TATO) from 0.056 in 2020 to 0.063 in 2024 and the stable Net Profit Margin (NPM) within the 7-9% range. These results suggest that improvements in asset utilization and cost efficiency together have strengthened the company's ability to generate returns from its total investments.

This finding is consistent with the studies by Pasaribu (2022) and Tania and Dewi (2022), which indicate that simultaneous improvements in activity ratios such as TATO and ITO can enhance ROI and overall operational efficiency. Furthermore, the results align with Rahman et al. (2020), who emphasize that the positive correlation between activity ratios and profitability reflects effective management in utilizing resources to generate income.

In conclusion, the increase in TATO plays an important role in raising ROI, while the decline in ITO highlights the need for better inventory management. This situation demonstrates that efficiency in asset management can help balance inefficiencies in inventory management, enabling the company's overall operational performance to continue improving.

Scientific and Practical Implications

From a scientific standpoint, the findings of this study strengthen the Efficiency Theory and the Resource-Based View (RBV) by providing empirical evidence from Indonesia's plastic manufacturing industry. The results confirm that effective management of internal resources, such as assets and inventory, is crucial for enhancing operational efficiency and achieving sustainable profitability (Brigham & Ehrhardt, 2021; Saputri et al., 2024). Therefore, this study contributes to the field of financial management by demonstrating that the integration of asset efficiency and working capital management positively influences ROI.

From a practical standpoint, the research offers strategic guidance for PT Panca Budi Idaman Tbk to enhance its inventory management system, maximize the use of fixed assets, and adopt digital technologies in production and distribution processes. Implementing these strategies is expected to improve operational efficiency and strengthen the company's competitiveness in the capital-intensive plastic manufacturing sector.

Contributions and Limitations of the Study

This study offers empirical contributions by enhancing the understanding of the relationship between activity ratios and operational efficiency within Indonesia's manufacturing sector. Unlike previous research that primarily focused on profitability (Ferica et al., 2020; Pasaribu, 2022), this study positions operational efficiency as the key variable representing a company's capability to manage resources effectively.

Nevertheless, the study has certain limitations. The data are limited to a single company and cover only a five-year observation period. Additionally, external factors such as inflation, fiscal policy, and market conditions were not included in the analytical framework. Therefore, future research is advised to include a larger sample of companies across different manufacturing sub-sectors and to integrate external variables to produce more comprehensive and representative findings.

Conclusion

Based on the analysis of PT Panca Budi Idaman Tbk's financial data for the 2020–2024 period, it can be concluded that Inventory Turnover (ITO) and Total Asset Turnover (TATO) influence operational efficiency, as measured by Return on Investment (ROI). The downward trend in ITO during the study period indicates that the company's inventory management has not yet reached an optimal level, highlighting the need to strengthen stock control strategies to prevent excess inventory and improve working capital turnover. In contrast, the upward trend in TATO demonstrates improved efficiency in utilizing assets to generate sales, which positively contributes to the increase in ROI. The consistent rise in ROI over the years reflects the company's ability to optimize asset utilization to achieve higher profitability, despite fluctuations in inventory management efficiency.

These findings support Brigham and Ehrhardt's (2021) Efficiency Theory and the Resource-Based View (RBV) framework, both of which emphasize that a company's competitive advantage and operational efficiency rely on its internal capacity to manage resources effectively. Empirically, the results are consistent with previous studies by Ferica et al. (2020), Saputri et al. (2024), and Pasaribu (2022), which found that improvements in asset utilization and inventory management enhance profitability and operational performance in manufacturing firms.

From a practical standpoint, this study suggests that companies should adopt technology-based systems for asset and inventory management, optimize their supply chains, and strengthen cost control to achieve sustainable operational efficiency. Academically, this research adds to the empirical literature on the relationship between activity ratios and operational efficiency in Indonesia's manufacturing sector, particularly within the plastics and packaging industry. However, this study is limited by its focus on a single company and a five-year observation period, which restricts the generalizability of the findings. Therefore, future research should include a larger sample of companies from different manufacturing sub-sectors and incorporate external variables such as inflation, operating costs, leverage, and labor productivity to develop a more comprehensive understanding of the factors influencing operational efficiency in the national industrial sector.

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